PROMISE TECHNOLOGY, INC.

FastTrak
S150 SX4
Quick Start Guide

Version 3.4

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Contents

Step 1: Unpack Your FastTrak Card 3

Step 2: Memory Module Test 4

Step 3: Install the FastTrak Card 5

Step 4: Install the Hard Drives 6

Step 5: Create Your Disk Array 8

Step 6: Install Software Drivers 11

Step 1: Unpack Your FastTrak Card

When you receive the FastTrak S150 Series card, the package should contain the items listed below:

- FastTrak S150 SX4 RAID Controller Card
- Quick Start Guide
- FastTrak S150 SX4 driver diskette
- Four internal 4-wire Serial ATA hard drive data cables
- Two Y power splitter cables
- CD with Drivers, Promise Array Management (PAM) utility, PAM User Manual and FastTrak S150 SX4 / SX4000 / SX4000 Lite User Manual

If ANY of the contents are missing or appear to be damaged, please contact your dealer or distributor immediately.

Note

The Promise card is a PCI Plug-n-Play (PnP) device. No changes are necessary in the motherboard CMOS/BIOS Setup for resources or drive types in most applications.

Warning

Before installing the adapter into an existing system, backup any important or useful data. Failure to follow this accepted PC practice could result in data loss.

Warning

The FastTrak card, like other parts of your system, is subject to damage by static electricity. Be sure that you're properly grounded (Promise Technology recommends that you wear an anti-static strap or touch a grounded object) and that you unplug your system before installing FastTrak.

Step 2: Memory Module Test

The FastTrak S150 SX4 RAID Controller card ships without a Dual Inline Memory Module (DIMM) for Synchronous Dynamic Random Access Memory (SDRAM). A DIMM of 64 MB to 256 MB capacity must be installed in order for the FastTrak Card to function.

The DIMM you select must pass a test prepared by Promise Technology to verify that your DIMM is fully compatible with the FastTrak card. An incompatible DIMM can appear to work properly, only to experience unexpected errors that may result in data loss or controller malfunction.

Promise recommends testing for all DIMMs being used in a FastTrak controller, including those from the above list. Follow this procedure to verify your DIMM's compatibility with your FastTrak RAID Controller card.

1. Prepare a DOS Boot diskette.
2. Copy the Promise Test Utility files to a second diskette.
3. Install your SDRAM DIMM into the Cache Memory socket of the FastTrak card.
4. Plug in FastTrak card into a PCI slot on a desktop PC or server.
5. Boot the PC with the DOS Boot diskette.
6. Remove the DOS Boot diskette and insert the diskette with the Promise Test Utility files.
7. At the DOS prompt, type memtest and press Enter. The test begins.
   - If the DIMM is OK, the program will show a PASS message similar to the one below:

     ```
     Promise Memory Test Utility V1.3
     05/24/2003 18:07:50
     Controller Type ..... : FastTrak
     SX4000
     Memory Speed ..... : 100MHz
     Memory Size ..... : 128MB
     Memory Type ..... : Non-ECC
     Memory Test Result ( HOST ) ..... : PASS
     Memory Test Result ( HDMA ) ..... : PASS
     Memory Test Result ( XOR  ) ..... : PASS
     ```

     The PASS message means you can use the DIMM that is currently installed.
   - If there is any error, the program will stop and return to DOS and show error message. Do not use the DIMM.
   - If the program halts for more than 20 seconds, there may be an error. Check the FastTrak card, DIMM, and your system BIOS. Then run the test again.

Step 3: Install the FastTrak Card

The FastTrak RAID Controller card fits into any available:

- 32-bit PCI slot (must be PCI 2.2 compliant)
- The 32-bit portion of a 64-bit PCI slot

on the PC's motherboard (see Figure 1 below).

1. Remove the cover of your system.
2. Remove the inside slot cover of an available 32-bit PCI slot on the motherboard.
3. Install the FastTrak card into the open slot (see Figure 1 below). Secure the bracket to the system's frame.
4. Attach your system case's 2- or 4-pin LED cable to the LED connector on the FastTrak card (see Figures 2 and 3, below). Make sure that pin 1 on the connector is aligned with pin 1 of the cable.
5. Fasten the FastTrak card bracket to the system case (see below).

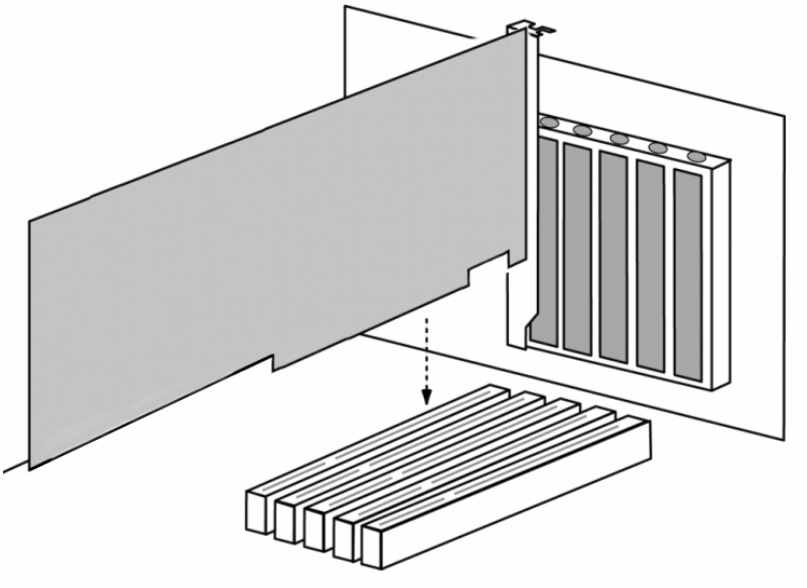


Figure 1. **Insert the FastTrak card into an open PCI slot.**

Step 4: Install the Hard Drives

Important

If you wish to include your current bootable Serial ATA drive using the Windows XP operating system as part of a bootable Mirrored (RAID 1) array on your FastTrak card, do NOT connect the hard drive to the FastTrak yet.

You MUST install the Windows XP driver software first onto this drive while it is still attached to your existing hard drive controller.

The FastTrak S150 SX4 RAID Controller card supports only Serial ATA hard drives.

If you are striping (RAID 0) for performance, use up to four new drives. If mirroring (RAID 1) for protection, you can use two new drives OR use an existing drive and a new drive (the new drive must be the same size or larger than the existing drive). If you are planning a RAID 5 array, use three or four new drives.

1. Install the hard drives into the hard drive bays of your system.

Caution

Use of removable hard drive enclosures other than Promise Technology's SuperSwap is not supported and may result in performance loss or other undesired results.

2. Attach one Serial ATA data cable to each hard drive. Then attach the other ends of the cables to the connectors on the FastTrak card (see Figure 2, below).

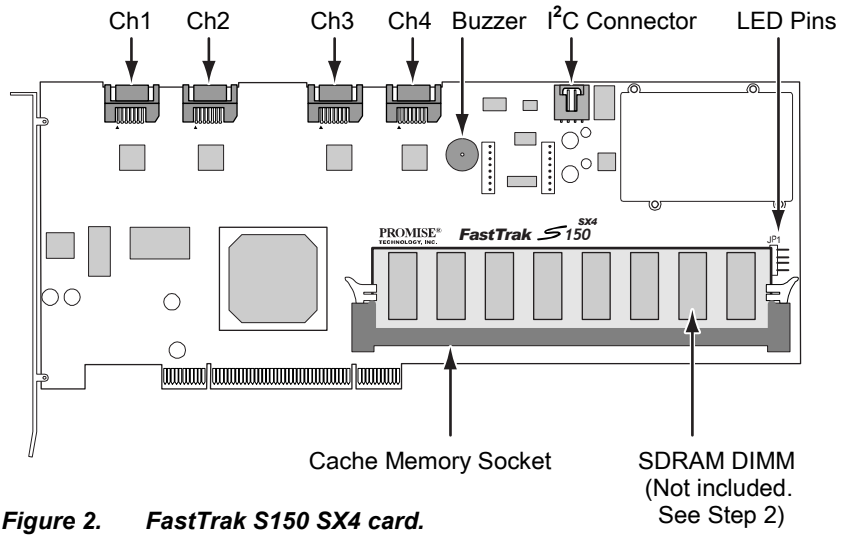


Figure 2. FastTrak S150 SX4 card.

3. Attach the Y-cable power splitters to each of the hard drives.

Step 5: Create Your Disk Array

You will now use the onboard FastBuild BIOS utility to create your first array using the attached drives. For an explanation of the array options, see Chapter 3 of the *FastTrak S150 SX4 / SX4000 / SX4000 Lite User Manual*.

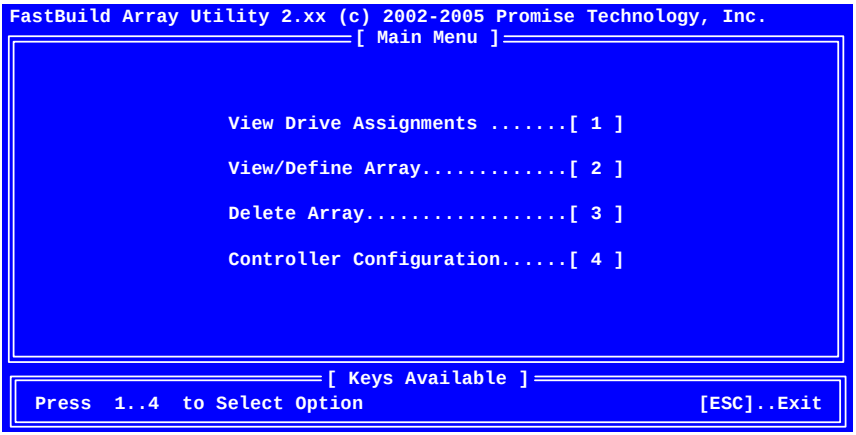
Important

Even if you plan to use the Promise Array Management Utility to manage your array, you must still create your first array using the FastBuild Utility, as described here.

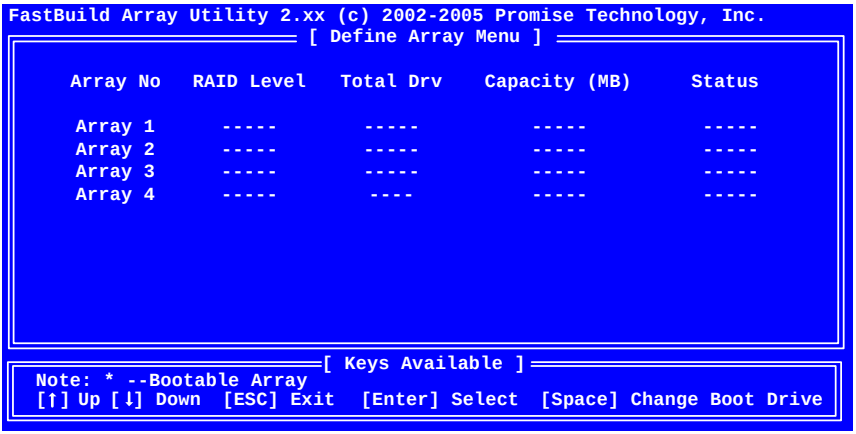
1. Boot your system. If this is the first time you have booted with the FastTrak card and drives installed, the Promise onboard BIOS will display the following screen.

```
FastTrak S150 SX4 (tm) BIOS Version 1.10.02
(c) 2002 Promise Technology, Inc. All rights reserved.

Installed DIMM Size: 128 MB

No Array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility...
Press <ESC> to continue booting...
```

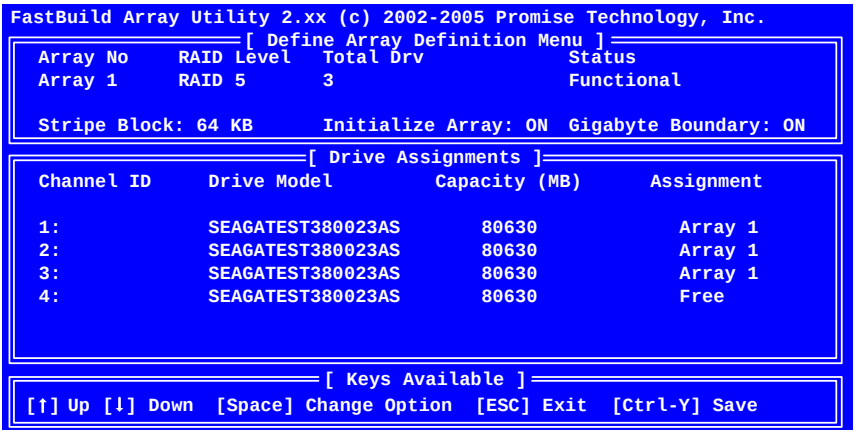
2. Press the Ctrl-F keys to display the FastBuild Utility Main Menu (below).


FastBuild Array Utility 2.xx (c) 2002-2005 Promise Technology, Inc.
[Main Menu]
View Drive Assignments .....[1]
View/Define Array.....[2]
Delete Array.....[3]
Controller Configuration.....[4]
[Keys Available]
Press 1..4 to Select Option
[ESC]..Exit

3. Press 2 on the Main Menu screen to display, the Define Array Menu appears (below).


FastBuild Array Utility 2.xx (c) 2002-2005 Promise Technology, Inc.
[Define Array Menu]
Array No RAID Level Total Drv Capacity (MB) Status
Array 1 ----- ----- ----- -----
Array 2 ----- ----- ----- -----
Array 3 ----- ----- ----- -----
Array 4 ----- ---- ----- -----
[Keys Available]
Note: * --Bootable Array
[↑] Up [↓] Down [ESC] Exit [Enter] Select [Space] Change Boot Drive

4. Press the arrow keys to highlight an array number you wish to define and press Enter to select it. The Define Array Definition Menu will next appear (below).


FastBuild Array Utility 2.xx (c) 2002-2005 Promise Technology, Inc.
[Define Array Definition Menu]
Array No RAID Level Total Drv Status
Array 1 RAID 5 3 Functional
Stripe Block: 64 KB Initialize Array: ON Gigabyte Boundary: ON
[Drive Assignments]
Channel ID Drive Model Capacity (MB) Assignment
1: SEAGATEST380023AS 80630 Array 1
2: SEAGATEST380023AS 80630 Array 1
3: SEAGATEST380023AS 80630 Array 1
4: SEAGATEST380023AS 80630 Free
[Keys Available]
[↑] Up [↓] Down [Space] Change Option [ESC] Exit [Ctrl-Y] Save

5. Choose the RAID Level you want. In the Define Array Definition Menu section, press the Spacebar to cycle through array types:

   - RAID 0 (Striping)
   - RAID 1 (Mirroring)
   - RAID 0+1 (Striping / Mirroring)
   - RAID 5 (Data / Parity Striping)
   - JBOD (Single Drive)

6. Press the arrow keys to move to the next option. Option choices depend on the RAID Level you selected.
   - Initialize Array, zero the disk drives. RAID 5 only.
   - Stripe Block Size, the default 64KB is best for most applications.
   - Gigabyte Boundary, allows use of slightly smaller replacement drives.
7. Press the arrow keys to move to Disk Assignments. Press the spacebar to toggle between N and Y for each available drive.

   Assign the appropriate number of disk drives to your array. Refer to the chart below:

Level	Number of Drives
RAID 0	2, 3 or 4
RAID 1	2 only
RAID 0+1	4 only
RAID 5	3 or 4
JBOD	1, 2, 3 or 4

   A disk drive that is not assigned to an array will automatically function as a Hot Spare Drive.
8. Press Ctrl-Y to save your array configuration.
9. Press Esc to exit to the Main Menu. Press Esc again to exit the Utility.
10. Press Y to confirm the new array and restart the computer.

You have successfully created a new RAID array.

Important

You must be partition and format your new array before you can use it. Use the same method of partitioning and formatting on an array as you would any other fixed disk added to your computer system.

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Step 6: Install Software Drivers

Drivers for the Windows operating systems are included on the software CD and driver diskette that came with your FastTrak S150 SX4 Controller. Please download the latest drivers from the Promise website at www.promise.com.

Windows systems usually recognize the FastTrak Controller, prompt you for the CD or diskette and perform the driver installation automatically.

If you are installing the FastTrak Controller at the same time as your operating system or you prefer to read step-by-step directions, see Chapter 4 of the *FastTrak S150 SX4 / SX4000 / SX4000 Lite User Manual* on the software CD.

Drivers and installation instructions for other Operating Systems are downloadable from the Promise website at www.promise.com.